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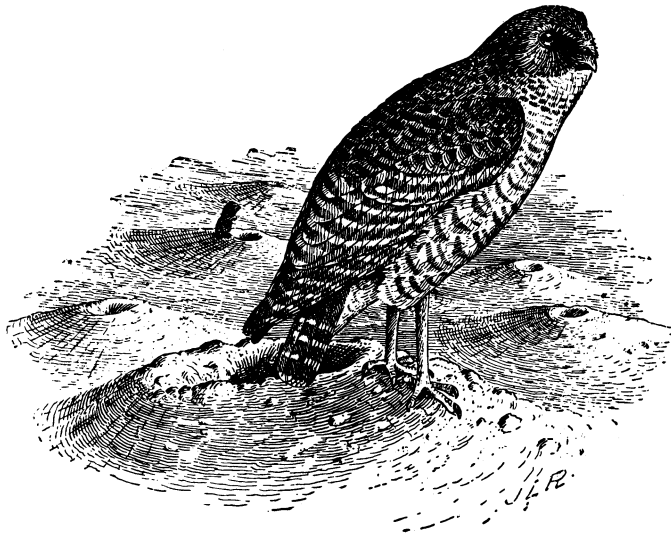
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VOLUME III

APRIL, 1935

NUMBER 2

THE NEBRASKA BIRD REVIEW



A Review of Nebraska Ornithology

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THE SONGS OF THE WESTERN MEADOWLARK

By MISSES JESSIE M. and MARY A. TOWNE

Elliott Coues in the fifth (1903) edition of his *Key to North American Birds*, referring to the song of the Western Meadowlark, wrote that "the peculiarities of the song are attested by numberless hearers of this fine melody, from the time when the notes fell on the surprised ears of Audubon, Sprague, Harris, and Bell, in ascending the Missouri together in 1843, to the present day. I am a competent witness to these facts, and also to the fact that I have never seen a specimen that could not be distinguished from *magna* (the Eastern Meadowlark); under which circumstances I do not follow the A. O. U. in reducing *neglecta* to a subspecies of *magna*." Audubon, who thought that he had identified most of the North American birds, hearing and examining Western Meadowlarks while ascending the Missouri, had named them as a distinct species, *Sturnella neglecta*, but from 1872 on for the following thirty years our western birds had generally been regarded as merely a subspecies of the Eastern Meadowlark, until about the time that the clarifying statement of Coues quoted above was made.

The enthusiasm of Eastern naturalists who have heard the Western Meadowlark, or who have come to this region asking to hear it, has emphasized the remarkable nature of the song. Coues himself had written that the song of the Eastern Meadowlark was not in the same class with that of the Western Meadowlark. Henry Oldys, the Maryland ornithologist, coming here to lecture years ago, asked particularly to hear the Western Meadowlark's song. He used a pitchpipe to get the key and his watch for the rapidity, and secured the songs almost exactly, as was proved when he later reproduced them in his lecture. "We in the East have the Hermit Thrush, but with your Western Meadowlark you do not need him," Mr. Oldys said. Mr. Robert Gorst, the noted bird imitator and ornithologist from Boston, was also much interested, and asked to hear the Western Meadowlark's song.

Our father, the late Dr. Solon R. Towne, became much interested in the songs of the Western Meadowlark as early as 1911, and began a very special study of these songs about 1926. His interest in this study continued up to his death in 1932. Our home location, at 1502 North 54th Street, Omaha, where we are surrounded by open fields, is exceedingly favorable for these birds, and the great variety of Western Meadowlark songs to be heard about our home furnished easily accessible material for his study throughout the long season that these birds are with us. Our father's ear was early trained to unusual musical accuracy by his singing in the glee club at Dartmouth College and by his later experience as a tenor in a quartette, but most of all by his study of the birds, which covered a period of forty-five years. He said that his first stimulating experience in distinguishing bird songs was in hearing a song similar to that of the Eastern Robin, but more hur-

ried and not so full in tone, which he found to be the song of the Rose-breasted Grosbeak. After having learned to associate a particular song or type of song with a species of bird, he came to identify the birds more by their songs than in any other way.



When he was learning these varied Western Meadowlark songs, he used to saunter about in the vicinity of our home, tuning fork in hand to get the pitch, and come back to the house humming in the *do re mi* syllables of the scale the song that he wished to retain. When in the house, he wrote the song down on the musical staff. As the seasons went on, he verified these songs again and again, as the dates set down by each song will testify. He said that he had tested them so many times that he felt quite sure of the notes reached. The songs vary considerably in the number of tones used, but usually consist of five tones. Many of the songs are in the key of B flat, and some are in the key of A, or other keys. Some of the songs show double-toned notes,

as in Nos. 7 and 14, given in notation opposite. Our father said that while it was not always possible to tell what emotions the birds seemed to be expressing in their song, sometimes the way they sang certain songs seemed to give an insight into their emotional condition. On hot days, the Western Meadowlarks would sing only two or three notes and then stop, as if tired.

Dr. Towne left notations of twenty-three Western Meadowlark songs, eighteen of which are here given as copied accurately from his original final notations. One additional song is the same as No. 6 in form only given in the key of A. Another is the same as No. 8, but likewise given in the key of A. A third is like No. 9, but given in the key of B flat. In some of the notations the songs are divided into the measures which are used in man-made music. Some are not, being merely musical phrases. Many of the songs are dated. For example in 1926 No. 1 was heard on May 14 and October 5; No. 2 on September 22; No. 7 on May 14 and 22, June 8, September 17, and October 3 and 6; No. 8 on July 11; No. 9 on August 19, September 3, and October 3, 6, 13 and 18; No. 11 on September 14; No. 13 on May 4; No. 14 on June 8, July 11, September 17, and October 3; and No. 16 on October 13.

Dr. Towne liked to fit to each song a sentence that would express the phrasing and help to retain it and the tune in his memory. He started this practice with a sentence that was given him by a farmer living near Bellevue, whom he met on a bird hike. This farmer said, "Do you know what that Meadowlark is singing? He's singing '*Hoop la, potato bug*'." He found the "potato bug song" among the Western Meadowlark songs to be heard near his home. He found this song always to be in the same key. "*Be careful you'll break 'em*" is another (15). "*Singing just as usual*" is another familiar song (10). "*You're a lovely creature*" is another. There was another song that the Doctor hummed, but could find no words to express. He had been puzzled for some time about phrasing it. Then came a time when the inspiration arrived. It was right after Jay Burns, a former Omahan, had opened a bakery and had yielded to the suggestion of the Nebraska Audubon Society that he put pictures of fifty kinds of birds in with his loaves of bread, for advertisement and to arouse interest in birds. The Doctor was listening to a Western Meadowlark hardly a month later when the words of its song came to him. It seemed that the bird sang "*Buy your bread of Jay Burns*."

Recently we were looking over some of our father's bird notes, and among them we found mention that he made, in an article in the Omaha *World-Herald* in 1911, of a Western Meadowlark with a very remarkable and individual song. This bird sings a few piercing "announcement" notes from the top of a telegraph pole, and then continues in an ecstatic song of softer notes for several minutes, sometimes in flight and sometimes not. It is a prolonged song of soft grace notes, and might be called a cadenza. We have even heard him whisper parts of it while feeding on the ground in the yard. Year after year for the past twenty-four years we have had a Western Meadowlark in our neighborhood that sang this sort of a song, and we wonder if it could possibly be the same individual, returning to us year after year. We have always hoped that he would pass on his remarkable song to his offspring, but since there is only one such elaborate Meadowlark singer in the neighborhood each season, and the song is always so similar, we have felt compelled to believe it is the same bird. Naturally we are eagerly waiting to see if our gifted singer returns again in 1935.

THE CASE AGAINST THE BRONZED GRACKLE

By MRS. GEORGE W. TRINE

Whenever I think of my initial acquaintance with the Bronzed Grackle (*Quiscalus quiscula aeneus*) I am reminded of an amusing incident. The wheels of the lumber wagon needed greasing, so an older brother was assigned the task. He kindly permitted me the great privilege of spreading the yellow grease on the axle with a little paddle. With this practical demonstration still fresh in mind my attention was drawn to a Bronzed Grackle, newly arrived from the South, perching in a nearby tree. Its voice distressed me, and as it was much like the sound of the squeaky wagon wheel I wondered whether we could grease the bird, too. My childish concern for its comfort was misplaced entirely, and I now know the paddle should have been used to discipline it instead, as I have plenty of reason to realize that this bird is a bully, a thief, and a murderer.

After years of close observation of the Bronzed Grackle, I have learned that its displeasing voice, untidy habits, and insistence on roosting in the trees close to our homes are among the least of its faults. Just why the Grackles have become so obnoxious during the past ten or fifteen years cannot satisfactorily be explained. Undoubtedly, there has been some infraction of Nature's delicate law of balance, either through man's meddling or a combination of circumstances due to the settlement of a new land.

The Bronzed Grackle is regarded as an insectivorous bird and as such is protected by our game laws. My opinion is that it is insectivorous only when there are neither eggs nor young of smaller, helpless birds for it to prey upon. As I view the situation, after years of experience with the species, it seems to me that if we are to save our most desirable song and insectivorous birds from harassment to the verge of extinction, all protection must be withdrawn from the Bronzed Grackle, and a most intensive warfare waged upon it instead. It should be classed with the most predatory of the birds. So far as I have been able to learn it has no natural enemies, and, due to the great number of the Grackles and their predacious habits, I consider them a greater menace to the lives of our desirable birds than all other dangers combined. We think our gangster problem a bad one. Compared to the Bronzed Grackle gangster in bird life our problem is small. All of the smaller birds, excepting the Kingbirds and possibly also the Orioles, fear the Grackles, as they are utterly incapable of combatting this large and aggressive species.

Every season the Eastern Robin is a prominent early victim of the Bronzed Grackle. Incubation is quite generally in progress with both species by the end of April or in May. As the leaves of the trees often are not yet large enough to effect good concealment, the nests are easily seen, and the Grackle proceeds at once in its destruction of the Robin's eggs. The Robins suffer such outrages repeatedly. Last spring (1934) my attention was called to such an incident by the distressed cries of a pair of Robins nesting in a maple tree. I rushed out with a broomstick, just in time to see a Grackle carrying a Robin's egg from the nest. Throwing the stick, I forced it to drop the egg. On examination, I found the young bird just about ready to emerge. This is just one of many such observations. Later in the season a young Robin was seen hopping around the lawn, yelling in its baby way for dad to hurry up and bring on that worm. A Grackle left the bird bath close by and pecked the young bird to death, in spite of the attempts of the parent birds to prevent it, and before I could drive it away.

In this locality the Eastern Cardinals suffer more than the Robins, if such is possible, through the depredations of the Bronzed Grackle. With

their early nesting habits and bright color they are easy to follow and locate. Many times in a season I have watched the Grackle follow the Cardinals in close pursuit to their nest in a lilac hedge. Over a period of at least six years, I do not remember ever having seen a pair of Cardinals with more than one young. My explanation of this is that the eggs are taken daily by the Grackles, up to the last one. The female Cardinal then begins incubation, and thus this one last egg is saved. Curiously enough, my observation as to the young bird hatching from this last egg indicates that it is always a male. It would be interesting to know whether there is any information on or proof of a theory that the sexes of the young are rotated in relation to the sequence of egg deposition. It seems logical that this unbalancing in ratio of the sexes accounts for the great rivalry between the male Cardinals and may have a detrimental influence on the local population of the species.

One day last summer I heard a disturbance at the Western House Wren's house and found a Bronzed Grackle annoying the Wrens. I drove it away and returned to my work. Having occasion to go to the garden shortly afterwards, I noticed the male Wren in distress. Investigating, I found "Jenny" Wren's tiny body, still warm, with a great hole in the back, and the fiendish Grackle who killed her was screaming from the roof of the Wrens' house.

Even the house-nesting Purple Martins are not immune from attempted raids by the Grackles. I have seen them on the Martins' doorstep, but apparently they are afraid or unable to enter the house. The Brown Thrasher is another of our fine songsters and beautiful birds that raises its broods under the greatest of difficulties, if at all. I have seen a pair make at least three nests, and it is very doubtful whether any young survived. We had a pair of Thrashers nesting in a vine on the porch. The eggs were taken daily by the Grackles, as fast as they were deposited, in spite of all of our attempts to prevent it. Catbirds and Rose-breasted and Rocky Mountain Black-headed Grosbeaks nesting in honeysuckle bushes had all of their eggs taken by the Grackles last year, and the Western Mourning Doves suffered greatly through the ravages of these detestable birds. The large, white eggs of the Dove are easily seen and the Grackles destroy them by wholesale.

The two exceptions that prove the rule, of this terrible destruction of our desirable birds, are the Baltimore and Orchard Orioles and the Eastern and Arkansas Kingbirds. I have no proof that nests of either of these species are pilfered by the Grackles. The Orioles and Kingbirds are pugnacious, and can capably defend their nests and young.

It is not the eggs alone that are taken. I frequently have found the newly-hatched young of our smaller song birds in the bird bath, and observed the Grackles trying to devour them. Observers of these birds know the Grackles will soak bread in water before feeding it to their young.

The number of song and insectivorous birds destroyed by the Grackles in one year in this locality cannot accurately be estimated, but judging from what I have seen here around our home, it must be alarmingly large. If one busy person observed all of the foregoing incidents in one season, on one quarter block of ground, how much destruction of bird life by the Bronzed Grackles must go on in a county, or our entire state, in one season? I, for one, am greatly concerned over the not only possible, but very probable local extirpation of many species of our most desirable and beautiful song birds, and I do hope something can be done to protect them from the Bronzed Grackle before it is too late.

GENERAL NOTES

The Great Blue Heron and Mourning Warbler at Red Cloud, Webster County.—I note that in Mr. Charles S. Ludlow's paper on bird migration records here at Red Cloud in the last number of the *Review* (*antea* iii, pp. 3-25), he does not include the Great Blue Heron (*Ardea herodias*) or the Mourning Warbler (*Oporornis philadelphia*) in the list. On August 19, 1934, three of us identified two Great Blue Herons on sandbars in the Republican River. We followed them up the river for one half of a mile or more. With the setting sun shining on them they seemed immense, around three feet in height, and of a rich indigo blue color. Then on August 23, 1934, seven or eight Mourning Warblers were seen among our grape vines, where they remained for a week or more on their southward migration. I am sure about the correct identification of these warblers, for I saw them many times during that period and verified the identification in the books, to my complete satisfaction. That is, however, the only time that I have seen them here. They were not particularly shy, so we could come quite close to them. I was too busy at the time making the grapes into jelly to realize the unusualness of this observation, but I now realize that the occurrence of this bird in Nebraska is uncommon enough to justify it being made a matter of record.—MRS. GEORGE W. TRINE, *Red Cloud, Nebr.*

The American Magpie in Douglas County, Nebraska.—Apropos of the invasion of the American Magpie (*Pica pica hudsonia*) discussed in the January number of the *Review* (*antea* iii, pp. 26-27), I wish to place on record that Mr. Wesley Thomas saw one of these birds the past fall near Elk City, Douglas County.—L. O. HORSKY, *Omaha, Nebr.*

Some February and March Records of the European Starling.—On February 16, 1935, I saw a flock of twenty European Starlings (*Sturnus vulgaris vulgaris*), on South 40th Street, Lincoln, Nebraska, just south of 40th Street and Sheridan Boulevard. They were circling in front of a farm house along the road. On the same day I saw a lone bird of this species on the farm of Mr. L. E. Mumford of Lincoln, six miles south of the Waltz oil station at College View. A cat caught a Starling on Mr. Mumford's farm on March 3, probably the same bird, and Mr. Mumford brought it to me alive that day; but although I provided it with food, water and seclusion, it died during the following night. This specimen was then turned over to Prof. Swenk for preservation.—L. H. WATSON, *Lincoln, Nebr.*

More European Starlings Killed Near Lincoln.—On the night of March 15, during the dust storm and just prior to the blizzard of the 16th, my boys went into the hay loft of the barn at the Agronomy Farm just east of Lincoln, Nebraska, after dark to get rid of the English Sparrows that have been roosting there. Among the sparrows they found two European Starlings (*Sturnus vulgaris vulgaris*), which they killed by knocking them down with paddles, along with the sparrows. The specimens were turned over to Prof. Swenk at the University for identification and preservation.—WILLARD E. LYNES, *Supt. of Agronomy Farm, Univ. of Nebraska, Lincoln, Nebr.*

The European Starling Apparently Increasing in Saline County.—On March 24, 1935, in company with Messrs. Norman Lewis and Rufus Lyman, I saw about ten individuals of the European Starling (*Sturnus vulgaris vulgaris*) near a barn in a farm yard bordering the Big Blue River, a little south of Crete, Saline County, Nebraska. In 1933, on March 5 and 12, lone individuals only were seen in Saline County north of Crete.—GEORGE E. HUDSON, *Dept. Zoology and Anatomy, Univ. of Nebr., Lincoln, Nebr.*

A Heavy Mortality of Birds in the Hastings Vicinity During and After the Dust Storm of March 15.—On March 15 there was a terrific dust storm in Nebraska during which in this locality the wind reached a velocity of about sixty miles an hour and the air was so filled with dust that it was impossible to drive in the country. There came also a severe drop in temperature, but without snow. Many reports were received of birds perishing in this vicinity during that storm. The Eastern Crows (*Corvus brachyrhynchos brachyrhynchos*) suffered greatly, probably the most of any species. After the storm, eight Little Brown Cranes (*Grus canadensis canadensis*) were found dead eight miles northeast of Funk, Phelps County. One of these was a very small bird, measuring only 37 inches in length, with an expanse of 63 inches and a tarsus of 6.5 inches. Most remarkable of all was the finding of a fine specimen of the Northern Bald Eagle (*Haliaeetus leucocephalus alascanus*) in the fully adult plumage with the head and tail pure white, with a broken wing, by two boys living near Guide Rock, Webster County. This specimen was brought to the Hastings Museum by H. E. Brezina.—A. M. BROOKING, *Hastings Municipal Museum, Hastings, Nebr.*

Effect of the Dust Storm of March 15 on the Bird Life in the Red Cloud Vicinity.—Following the snow and dust blizzard of the night of Friday, March 15, 1935, numbers of birds were found dead and injured in the vicinity of Red Cloud, Webster County. Quite a number of Western Meadowlarks and Horned Larks were found, apparently choked to death by the dust in the fields. Numbers of dead and broken-winged Eastern Crows were found scattered over the upland fields, as well as some Western Meadowlarks. The birds did not return, following this dust storm, for over a week, but by March 24 they were largely back again.—CHARLES S. LUDLOW, *Red Cloud, Nebr.*

Whooping Cranes in Kearney County, Nebraska.—On March 29, 1935, Mr. John Cranwell, a farmer living three miles north of Minden, Kearney County, saw ten Whooping Cranes (*Grus americana*) flying in a flock with Brown Cranes (*Grus canadensis* subsp.), and leading the flock. Mr. Cranwell is an old hunter, and is very familiar with the Whooping Crane, and, as he was quite close to them, I am certain he could not have been mistaken in his identification. At the end of March and the opening of April there were thousands of Brown Cranes feeding in this vicinity. I have watched their flocks in flight, but personally I have not seen any of the Whooping Cranes this spring.—F. R. KINGSLEY, *Minden, Nebr.*

Brown Cranes Eating Clover Cutworms.—During September of 1934 clover cutworms (*Scotogramma trifolii*) were very numerous on the lawns and in the alfalfa fields of southern Nebraska, from Gosper and Furnas Counties west to Hayes County and east to Nuckolls County. By the end of October they mostly had formed earthen cells or cocoons in which to pupate, and largely had entered the pupal stage within these cells. The high winds of the second half of March exposed these earthen cocoons and blew them around until at places there were from twelve to fifteen of them to be found in a pile. When the Brown Cranes (*Grus canadensis* subsp.) migrated through this region in late March and early April, they feasted upon this abundance of exposed cutworm cocoons.—J. V. CAIN, *Gosper County Agricultural Agent, Elwood, Nebr.*

The White Pelican in Lincoln County.—A flock of sixty or more White Pelicans (*Pelecanus erythrorhynchos*) was seen on the North Platte River near North Platte, on the morning of April 12, 1935, by Mrs. Earl R. Smith, her father Mr. Frank, and Mrs. A. H. Bivans. These huge white birds completely covered the sandbar upon which they were resting and preening their feathers. This species is uncommon in Lincoln County.—MRS. CARL COLLISTER, *North Platte, Nebr.*

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EDITORIAL PAGE

ANNOUNCEMENTS AND COMMENTS

As stated in the last number of the *Review* (*antea* iii, p. 33), the Thirty-sixth Annual Meeting of the Nebraska Ornithologists' Union will be held jointly with the Iowa Ornithologists' Union, at Sioux City, Iowa. Saturday, May 11, has been set as the date for the joint program of the two bird organizations, which are also jointly sponsoring the first Mississippi Valley Wild Life Conservation Conference, to be held the day preceding the Annual Meetings, Friday, May 10. All of the sessions will be held in the Ball Room of the Hotel Martin, which will be the headquarters hotel of the Conference and of the Annual Meeting. The program of the Conference is an outstanding one, and the relations of water conservation, soil erosion control, tree planting and Federal and State refuges to our wild life are all to be discussed by leading authorities on the subjects, and official conservation programs will be under discussion and further formulation. This immediately and tremendously important matter of conservation and restoration will prevade even the joint N. O. U. - I. O. U. program. On Saturday evening, our guest of honor and principal speaker will be Dr. Thomas S. Roberts, Director of the Zoological Museum of the University of Minnesota, to whom all Nebraska ornithologists and bird lovers are deeply indebted for the great aid afforded them by his magnificent work on the *Birds of Minnesota*. The Annual Field Day, on Sunday, May 12, is planned to be held within the proposed Lewis and Clark National Park in Thurston County, Nebraska, south of Sioux City. Although Sioux City is quite a distance from the homes of our members located in the southern, central and western parts of the state, the combined Wild Life Conference and Joint N. O. U. - I. O. U. programs are to be so outstanding, and the locality of the field trip of such beauty and present importance, that any special individual effort to get to the meetings this year will be more than justified.

The Twenty-first Annual American Game Conference was held at New York City on the 21st to 23rd of last January, under the chairmanship of Mr. Hoyes Lloyd, supervisor of wild life protection in Canada, with conservationists, sportsmen and game and fish officials acting as delegates from every section of the United States and Canada. Outstanding on the program of this Conference was a four-hour symposium, on January 22, on the migratory waterfowl situation in North America. During the proceedings Executive Director John H. Baker of the National Association of Audubon Societies introduced a resolution endorsing an unofficial recommendation to the Advisory Board on the administration of the Migratory Bird Treaty Act, and to the Secretary of Agriculture and President of the United States, that the season on migratory waterfowl be closed for one year beginning September, 1935, and that the closed season be made effective by an adequate assignment of Federal enforcement personnel. This resolution was defeated in the Conference by a vote of thirty-eight to twenty-two. However, the Conference voted to leave the decision on a definite recommendation covering the situation to the United States Biological Survey, and that decision

no doubt largely will depend upon the facts brought forth in a study of the wild duck population on this continent, to be conducted during the present spring and summer. It is to be hoped that the waterfowl will be given the benefit of any doubt, and that it may prove feasible to close the season entirely in 1935. At very least it would seem that those species of duck in the greatest danger should be given full protection, while the somewhat less threatened species, such as the Common Mallard and American Pintail and in the East the Black Duck, might be permitted to be shot, but only on the basis of distinctly restricted hours and bags and over a shortened season of consecutive days. Chief J. N. Darling of the Biological Survey and his helpers may, we believe, be depended upon to gather and analyze the facts and to make recommendations consistent with the situation.

On April 3, Representative Charles McLaughlin introduced a bill in Congress to establish a Lewis and Clark National Park in northeastern Nebraska, at an initial cost of \$600,000. This proposed park is planned to extend along the Nebraska side of the Missouri River for about twenty-eight miles, or from about thirteen miles south of Sioux City, at Homer in Dakota County, through the eastern edge of Thurston County to a little north of Decatur in Burt County, and west from the Missouri River to Highway No. 73, except for a rectangular excision east and north of Winnebago, making a long tract approximately five miles wide and containing approximately 30,000 acres. The park territory includes many steep river bluffs, including the famous Blackbird Hill, the steep bluff with the 520 foot drop known as Land's End, Big Bear Hollow, Robbers' Cave, and other points of traditional or historic interest, and it is expected that eventually a scenic highway would be constructed along the bluffs for the thirty miles from Homer to Decatur. Representative McLaughlin's bill would authorize the Secretary of the Interior to purchase the necessary land through the National Park Service at a cost of not to exceed twenty-five dollars an acre, and that Department would have supervision of the Park. The bill also seeks to acquire land for the establishment of a game and bird sanctuary on both the Nebraska and Iowa sides of the Missouri River, which refuge land would be administered by the Department of Agriculture. The land within the Park would also be devoted to sanctuary purposes under the joint direction of the Interior and Agriculture Departments. The proposed bird and game sanctuary, including the Park proper, would in Nebraska extend westward about another five miles, making its area about twice the size of that of the Park. It is the stated aim of the promoters of this project to restore the Park area to as nearly as possible the same condition as when Lewis and Clark visited the area in 1804, including the restocking of it with elk, black bear, wild turkeys and other native game animals. Of the \$600,000 appropriation, about \$450,000 would go toward the construction of the Park, the remaining \$150,000 for the establishment of the game and bird sanctuary.

Another movement to have the Federal government establish a national park along the Missouri River in northeastern Nebraska aims to develop a 25,000 acre park and bird sanctuary along the Missouri River for a frontage of about eight miles in the northern part of Knox County, about ten miles northwest of Bloomfield, to be known as the Devil's Nest National Park and Bird Sanctuary, in memory of the Santee Sioux Indians who formerly had their reservation at this place. The Devil's Nest is an unusual formation of hills and valleys, with plenty of timber and springs and a number of cold-water creeks, some of which are several miles long and fairly wide and deep.

Probably far more likely to have an early realization than are these proposed Federal national parks, are some of the proposed Federal wildfowl refuge and sanctuary projects in the sandhills region of Ne-

braska. One of these projects in particular, involving a chain of lakes with Hackberry Lake at its head, and including a number of state-owned lakes, all located about thirty miles south of Valentine, in Cherry County, embracing altogether an area of between 30,000 and 50,000 acres, has been so favorably reported upon by investigators for the Bureau of Biological Survey of the U. S. Department of Agriculture, who have made a thorough study of the situation, that its early actual development may rather confidently be expected. Backed with a fund of approximately eight and one-half million dollars, the Biological Survey in 1934 established many new waterfowl refuges and nesting areas, by reflooding drained areas through the western United States, and the importance of Nebraska as a breeding grounds and fly-way for waterfowl is not likely to be overlooked in these developments. At Lincoln, an earnest effort has been made by the local chapter of the Izaak Walton League to interest the Biological Survey in reflooding Capital Beach and maintaining it as a Federal waterfowl refuge. In addition to these more imposing Federal projects, there has developed also a movement to restore, as small local refuges, through the efforts of municipalities, park commissioners, local groups of sportsmen and conservationists, or individual nature lovers, many small publicly or privately owned dried-up or drained ponds, lagoons, sloughs and similar areas, sometimes with an allotment of adjacent land for nesting purposes. At Omaha, for example, a movement is on foot to make a better protected bird refuge and a nesting area of Carter Lake and vicinity. Also at Omaha, we understand, the bird sanctuary in Elmwood Park that was financed by the members and friends of the Ad-Sell League of that city is to be formally opened to the public this coming spring.

In Nebraska not only has the waterfowl situation been serious during the past year, but the preservation of the upland game birds in the state has also been a serious problem. Because of the great drouth of 1934, Nebraska fields entered the fall in a largely barren condition, without the usual waste grain for the birds to pick up and also without normally adequate cover. The great problem was to prevent the starvation during the winter of 1934-35, of the Common Ring-necked Pheasants, Greater Prairie Chickens, Prairie Sharp-tailed Grouse, Bob-white Quail and other upland game birds, as well as the granivorous song birds. The farmers of the state had for the most part not been able to produce enough grain and feed to take care of their own live stock, and there was little or no spare grain with which they could feed the birds, as they usually do. Of course some of the more fortunate among the farmers were able to feed the birds to a limited extent, and did so, but this supply would not have been adequate. The 50,000 Nebraska hunters found the pheasants relatively scarce during the open season of one week in the fall of 1934, and the more responsible-minded of these were greatly concerned as to the upland game surviving the winter. The birds did the best they could for themselves. When the snows of early December came, the pheasants gathered near the protecting groves, and sought food in the cane fields where some grain was available. The Prairie Chickens moved from the uplands to the lower and more sheltered country, especially where they found some food available. That these upland game and song birds did come through the winter at least fairly well was due partly to the relatively mild character of the greater part of the winter, without a heavy snowfall, and partly to the activity of the Nebraska Game, Forestation and Parks Commission and other conservation-minded agencies in inaugurating a state-wide "Feed the Birds" campaign. During December many towns raised funds for this purpose by public contributions, individuals cooperating by purchasing cheap grain sacked in five-pound bags at a dime a bag, which grain was distributed by such organizations as the Izaak Walton League, Nebraska Sportsmen's Association, American Legion, and other distributing agencies set up by the State Commission.

THE 1935 MIGRATION SEASON

The month of January, 1935, was mild, for though cooler than was the corresponding month in 1934 or 1933, yet it was warmer (4.6 degrees) than normal, averaging 27.1°. The coldest period was from the 13th to the 24th, and especially from the 19th to the 23rd. At Lincoln on January 20 and 21 minimum temperatures of 9 degrees below zero were attained, and corresponding or colder temperatures occurred on these days throughout the state. At Lincoln the warmest days were January 2, 6 and 25, when maximum temperatures reached 57° or 58° F., while in western Nebraska even higher temperatures were attained. In general, it was warmest in the southwestern and coldest in the northeastern sections of the state. Precipitation for Nebraska as a whole averaged 0.20 inch, which was 36% of normal, varying from 62% in the northwestern part of the state to 10% in the southwestern part. At Lincoln there were traces of or light rainfall or snowfall on the 7th to 10th, 12th, 15th and 16th, 18th to 20th, 23rd, 26th, and 29th to 31st, reaching a total, however, of only 0.30 inch of precipitation for the entire month. Elsewhere in the state the precipitation came practically all between the 10th and 20th. At the end of January the ground was bare throughout the state.

February was decidedly warmer, and, except for 1877, 1926, 1930 and 1931, was the warmest February on record. Each of the days from February 1 to 23, inclusive, was warmer than normal, not only at Lincoln, but for the state as a whole. On February 24 there began a cold wave, which extended over the next three days, the weather returning to above normal on the last day of the month. Zero or near-zero temperatures occurred on the 25th in western Nebraska and on the 26th in eastern Nebraska. Precipitation for the state averaged 0.63 inch, which was 88% of normal, varying from 29% more than normal in the northeastern section to 44% less than normal in the western section. At Lincoln there were traces of or light rains or snows on the 5th to 9th, 13th to 16th, 22nd, and 24th and 25th. Over the state as a whole light rain was general on the 13th to 15th and snow on the 24th and 25th, the latter melting almost immediately, so that the ground was bare during the last few days of the month. The precipitation for January and February together was 65% of normal. There was a severe dust storm on February 23.

March continued to be warmer and drier than normal. The coolest periods were the 5th to the 8th, the 16th and 17th, and the 30th and 31st. The lowest temperatures at Lincoln were during the blizzard of the 6th and 7th, the thermometer dropping to 7 degrees above zero on the 7th. Precipitation continued to be subnormal. At Lincoln there were light rains on the 3rd and 4th, rain with some snow on the 6th, snow flurries on the 7th, more rain with snow on the 16th and traces of rain on the 22nd and 25th, but amounting altogether to only 0.96 inch, which is 0.31 inch less than the normal. Severe dust storms were frequent throughout the month of March over the state, especially between March 15 and 28. One of the worst of these occurred with a high wind on March 15, and was followed by the cold wave of March 16 and 17, mentioned above. Many birds lost their lives in this storm. The worst dust storm occurred on March 20, and extended from Nebraska to Texas.

Taking up the bird record at Lincoln from where it ended at the close of January in the last number (*antea*, iii, pp. 42-43) of the *Review*, we find the spring migration beginning with the return of the ducks, late in February. Flocks of migrating American Pintails were reported as seen on the Missouri River near Omaha as early as February 20. At Lincoln, about 100 of these ducks, in several flocks, were noted at King's Pond by Mr. G. E. Hudson on March 9, and by Mr. Hudson and Messrs.

Norman Lewis and Rufus Lyman on March 16, while about eight were seen by Mr. Hudson at Crete, Saline County, on March 24. A Northern Killdeer was heard by M. H. Swenk on the morning of February 21. They appeared in force by March 13 and 15. Mr. Hudson noted about ten of these birds near Lincoln on March 23. Mr. W. E. Beed reported seeing a flock of about twenty Eastern Robins in some trees at the east edge of Lincoln on February 21. Dr. J. P. Williams reports having seen them on February 22, and Dean W. W. Burr saw one in his yard on February 23. The cold wave and snow storm of February 24 caused them to disappear, for the most part, though Mrs. George O. Smith reports that several of them were present at the feeding board at her home at 1837 C Street during the storm. They were back in force within the next few days and subsequently remained common.

The first Eastern Common Bluebird was reported by Miss Louisa Wilson on March 1. Three or four were seen on March 5 by Mr. Beed, while Mr. Hudson reported seeing three on March 23. Many flocks of geese were migrating south during the night of March 5, ahead of the blizzard of March 6. Professor Raymond Roberts saw a flock of twenty-two Lesser Snow Geese migrating northward on March 14. Other flocks were reported as seen going north on March 15. A flock of about 100 was reported seen by Messrs. Hudson, Lewis and Lyman, at King's Pond on March 16. There were many Lesser Snow Geese along with ducks at Capital Beach and Pioneer Park ponds on March 17, noted by M. H. Swenk. Professor Roberts reported a flock of Blue Geese on March 22, and also a flock of about sixty mixed Lesser Snow and Blue Geese on March 24, both flying northwest. Twenty-two Lesser Snow Geese and some Lesser (?) Canada Geese were reported also by Mr. Hudson as seen on the Big Blue River just south of Crete on March 24. At King's Pond on March 9, Mr. Hudson saw four female and two male American Buff-breasted Mergansers. He, together with Mr. Lewis and Mr. Lyman, also reported seeing five female and one male individuals of this species at Crete on March 24. On March 16, at King's Pond, Mr. Hudson saw a pair of Common Mallards and twenty or thirty Shovellers, as well as Blue Geese and some Lesser (?) Canada Geese. Three male and one female Common Mallards were noted near Lincoln by Mr. Hudson on March 23, and ten individuals (both sexes) of this species were seen near Crete on March 24. About six Shovellers were noted near Lincoln on March 23, and about twenty-five near Crete on March 24, all observed by Mr. Hudson.

Western Meadowlarks were common by March 16, according to Mr. Hudson, who reported them also on March 23, near Lincoln, and near Crete on March 24, where both the Eastern Common and Western Meadowlarks were present, the Eastern Common Meadowlark predominating. M. H. Swenk saw the Eastern Sparrow Hawk on March 19 at the Agricultural College campus. Professor Roberts noted the arrival of the first Western Mourning Dove on March 21. Mr. Hudson reported seeing ten of this species near Crete on March 24. Mr. Hudson noted the first Bronzed Grackles on March 21. They were common by March 23.

Species reported as seen on March 23 near Lincoln by Mr. Hudson, and not already mentioned are about twenty Baldpates (both sexes; seen also at Crete on March 24); five Green-winged Teals (both sexes; seen also at Crete on March 24); one male Canvas-back in a group with some Lesser Scaups; one Bufflehead; about thirty Baird Sandpipers; one Sparrow Hawk (seen also at Crete on March 24); two Eastern Hairy Woodpeckers; four Northern Downy Woodpeckers; three Northern Yellow-shafted Flickers; five Eastern Phoebe (common at Crete, March 24, and one seen by M. H. Swenk on March 29 at Wymore); about ten Red-winged Blackbirds; one Savannah Sparrow; about fifteen Tree Sparrows; two Eastern Slate-colored Juncos; and one Migrant (?)

Shrike (one seen also near Beatrice on March 29, by M. H. Swenk). Resident species seen included White-breasted Nuthatches (3), Tufted Titmouse (1), and Long-tailed Black-capped Chickadees (common). Other species reported seen near Crete on March 24 include three young male and two female Northern Ruddy Ducks; one Wilson Snipe; one Screech Owl in the gray phase; an adult Great Horned Owl in a nest about twenty-five feet up in a boxelder tree near the river, also two young less than a week old in the nest with a dead house rat; two Red-headed Woodpeckers; and about ten European Starlings. On March 29, M. H. Swenk saw a Greater Yellow-legs at a pond near Wymore and an Eastern Brown Creeper on April 2 at Lincoln.

Mr. Clyde Licking found a dead Little Brown Crane ten miles west of Columbus, Platte County, on March 28, 1935, and sent it to Mr. Hudson for preservation. On April 13, in Pioneer Park and the Penitentiary Woods, Mr. Hudson listed thirty-four species of birds, including the following among the migrants: Lesser Canada Goose (10), Lesser Snow Goose (3), Blue Goose (2), Baldpate (about 10), American Pintail (about 10), Green-winged Teal (about 5), Blue-winged Teal (about 8), Shoveller (about 25), Lesser Scaup (about 10), Redhead (1 pair), Canvas-back (2 males and 1 female), Northern Ruddy Duck (2 pairs), Northern Sharp-shinned Hawk (1), Cooper Hawk (2), Marsh Hawk (1), Northern American Coot (about 30), Northern Killdeer (1), Western Mourning Dove (3), Northern Yellow-shafted Flicker (several), Eastern Phoebe (3), Saskatchewan (?) Horned Lark (1), Eastern Brown Creeper (1), Eastern Robin (common), Eastern Common Bluebird (1), Migrant Loggerhead Shrike (1), Western Meadowlark (common), Red-winged Blackbird (several males), Bronzed Grackle (several), Red-eyed Eastern Towhee (1), Western Field Sparrow (1), and Song Sparrow (3). Eastern Crows were common, and a nest with six eggs was found forty-five feet up in an elm tree. Other residents noted include two Long-tailed Black-capped Chickadees and a pair of Eastern Cardinals.

Under date of April 13, Mr. L. O. Horsky sends in the 1935 bird notes of the Omaha Nature Study Club to date. He states that following January, the last four days of which were devoid of snow and with mean temperatures ranging from 3 to 12 degrees above normal, the first twenty-three days of February were all above normal in temperature, with only traces of snow falling during this period. The prolonged warm spell at this time presaged an earlier than usual spring migration. Mr. Walter Nelson noted a flock of ten (Lesser ?) Canada Geese flying overhead on February 4. The Eastern Sparrow Hawks returned to their nesting tree on the premises of Mr. L. O. Horsky on February 5. Although wintering Eastern Robins and Eastern Common Bluebirds were noted in Forest Lawn Cemetery during the winter (*antea* iii, p. 43), the first migrant Eastern Robin was noted by Mrs. F. J. Havel in her yard in Omaha on February 22, and the first migratory Eastern Common Bluebird was observed by Messrs. Max Bee, L. C. Denise, L. O. Horsky and C. A. Mitchell, on their way to Fontenelle Reserve, on February 25. On this same day migrating ducks could be seen flying over the Missouri River, and Miss Mary Ellsworth noted a Northern Yellow-shafted Flicker in Hummel Park. Miss Ellsworth saw also a Barred Owl in Hummel Park on this day, and its hoot was heard from a near-by hollow in the Fontenelle Forest by the field party mentioned above. This mild weather of most of February was followed by a six-inch snowfall on the 24th and 25th, with temperatures far below the normal for these dates (19 degrees below normal on the 25th and 18 degrees below normal on the 26th). After this storm the weather rapidly moderated, and the last day of February was again above normal by 4 degrees. During this period of snowfall and cold weather, large numbers of Common Mallards and American Pintails were reported having been seen at Ashland,

Saunders County, and Sutton, Clay County, by Mr. Ralph Traut, and Mr. Ed Cowger made the same report based on observations made in southwestern Iowa, near Riverton.

The first four days of March ranged from 10 to 21 degrees above normal in temperature, and the snow on the ground was reduced to a trace by March 2, when the Eastern Robins began singing. The heaviest snowfall of the winter, totalling eight inches, was experienced on March 8, with correspondingly low temperatures for the next three days, reaching a minimum of 7 degrees. During this period Mrs. N. F. Nielson, who acts as guardian of the birds of Spring Lake Park, in providing a bird bath for them during the summer and in feeding them in winter, had as many as ten Robins feeding from the bird bath from which she feeds her birds in the winter. March 9 to 15 ranged above normal, except on the 11th, which was 2 degrees below normal, and during this time Mrs. Nielson was delighted with the return of her Eastern Carolina Wrens on March 10. Also on March 10, Mr. L. O. Horsky noted a Western Meadowlark near Wilber, Saline County, and was greeted by one of these birds on his return to Omaha on the morning of March 12. Eastern Robins by then were giving a full morning chorus. On March 14, Misses Emma and Mary Ellsworth noted fifteen Baldpates, forty Red-breasted Mergansers, and the first Northern Killdeers and Red-winged Blackbirds. Northern Killdeers were much in evidence about the Horsky home on March 15. A three-inch snowfall fell on March 16, which had practically disappeared the following day, and was followed by a period of abnormally warm weather, with temperatures ranging from 10 to 28 degrees above the normal until March 27. During this warm period an Eastern Common Meadowlark was heard by Mr. L. O. Horsky near his home, on March 19. On March 23, Miss Mary Ellsworth and Mr. Horsky noted about 500 Lesser Snow Geese and Blue Geese flying overhead at Carter Lake, and noted also American Pintails, Shovellers, Lesser Scaups, Redheads, Northern American Coots, a Least Sandpiper, and a Song Sparrow. A heavy flight of these geese continued for several days after March 23. Also on March 23, Mr. Leonard Nichols saw the first Northern Purple Martin on his martin house, and Miss Elizabeth Rooney heard her first Chipping Sparrow. Mr. L. O. Horsky heard the Harris Sparrow near his home on March 24, and Miss Mary Ellsworth heard the Field Sparrow on March 25.

Under date of April 1, Mrs. A. H. Jones of Hastings sends in the bird notes of the Brooking Bird Club from where they ended at the close of 1934 in the preceding number of the *Review* (*antea*, iii, pp. 36-37) to the close of March, 1935. In January, Dr. Laird reported seeing a covey of eight Bob-whites and a lone Western Mourning Dove three miles south of the town of Deweese, Clay County, over in Nuckolls County. Nine or more Common Red-shafted Flickers were noted by Mrs. A. M. Jones on January 15, and in fact these birds spent the entire winter in the parks at Hastings and were often seen by the Club members. The last one was seen by Mrs. A. H. Jones on March 24. Mrs. C. A. Heartwell saw a Western Meadowlark on January 30. The next one was seen by Mrs. Jesse E. Marian on February 21, and fifteen were seen by Miss Margaret Diemer on March 10 and the same number on March 24. Mr. and Mrs. A. M. Brooking reported the arrival of Common Mallards and American Pintails on February 2, and twelve of the former and six of the latter were seen on March 10 by Miss Diemer, who saw also six Pintails on March 24. Mrs. Jennie Black noted the first Eastern Robin on February 10, and one each was seen by Miss Diemer on March 10 and 24. For the first time since 1920, Mrs. A. H. Jones failed to note the Eastern Brown Creeper, during the winter of 1934-35. Mrs. Rainforth saw one, however, at Hastings on February 11, and one was seen by Miss Nelle Rowe on March 21. Mrs. A. E. Olson noted Tree Sparrows on February 20, and they were seen also by

Miss Diemer on March 10. On February 22 Mesdames A. H. and A. M. Jones saw the Northern Yellow-shafted Flicker, White-winged Junco and Shufeldt Oregon Junco at Hastings, one of the first and ten of the last mentioned of which were again seen on March 10, and one of the first again on March 24, by Miss Diemer.

The Migrant Loggerhead Shrike was seen by Miss Margaret Diemer on March 9. On March 10, Mrs. A. H. Jones saw White-fronted Geese (fifty seen also by Miss Diemer on March 24), a Sparrow Hawk (Eastern?; three seen also by Miss Diemer on March 24), and an American Herring Gull, while Miss Diemer added to the local 1935 list the Lesser Scaup (thirty-five males circling very low over the Little Blue River for ten minutes), American Buff-breasted Merganser (one male and four females at Hidden Lake), Eastern Common Bluebird (two at LeRoy and two at Crystal Lake; ten seen also by Mrs. A. M. Brooking and Miss M. Caryle Sylla in Parkview Cemetery on March 15), Red-winged Blackbird (eleven at LeRoy, and twenty seen March 24), Common Redpoll (ten on Ray farm north of Crystal Lake), and Eastern Slate-colored Junco (ten). Other birds seen by Miss Diemer on March 10 included the Eastern Hairy Woodpecker (two), Eastern Crow (about 400), Tufted Titmouse (one seen in grove on Ray farm), Long-tailed Black-capped Chickadee (twenty), and Eastern Cardinal (one). The Ring-necked Duck and the Northern Killdeer were noted by Miss Diemer on March 14, and two of the latter species on March 24. The March 17 arrivals, noted by Mrs. A. H. Jones, included the Lesser Snow Goose (about 5,000 seen also by Miss Diemer on March 24), Blue-winged Teal, Red-tailed Hawk (subsp.?), Brown Crane (Little or Sandhill?; twenty-nine seen also by Miss Diemer on March 24), Mountain Bluebird (at the Platte River twenty miles north of Hastings), and Song Sparrow. March 24 brought in a great influx of birds. Miss Diemer saw fifteen Greater Canada Geese and about 1,000 Lesser Canada Geese, about 500 Blue Geese (this species seen also by Mrs. A. H. Jones on the same day), fifteen Shovellers, a pair of Hooded Mergansers (positively identified), a Swainson Hawk (this species seen also by Mrs. A. H. Jones on the same day), a Marsh Hawk, a Ring-billed Gull, and two Bronzed Grackles. Other species seen by Miss Diemer on March 24 include a Northern Downy Woodpecker, ten Eastern Crows, and three Long-tailed Black-capped Chickadees. Mrs. A. H. Jones noted five pairs of Baldpates on March 24, and the Misses Zetta and Nelle Rowe saw three pairs of these ducks on March 31. Also on March 24 the Misses Rowe saw a Red-bellied Woodpecker, Mrs. A. H. Jones saw an Eastern Phoebe and Mrs. A. E. Olson a Rocky Mountain Say Phoebe, and Mrs. F. L. Youngblood noted the Western Grasshopper Sparrow and the Field Sparrow. Mr. Winston Jones saw a Western Mourning Dove on March 25, Mesdames A. H. and A. M. Jones recorded the arrival of the Vesper Sparrow (subsp.?) and Harris Sparrow on March 26, and Mrs. A. H. Jones noted an American Rough-legged Hawk, an American Magpie and a Horned Lark (subsp.?) on March 31. Also on March 31 the Misses Rowe saw one pair of Buffleheads.

Under date of March 28, Mr. Harold Turner reports upon his bird notes for 1935, made near Holstein, Adams County. Mr. Turner says that a flock of American Pintails, mostly males, was noted flying north on February 26, and on March 3 several flocks of this duck were seen flying. American Rough-legged Hawks were quite common up until about the first of March. A female Marsh Hawk was seen on February 7, and subsequently during February and March several others were seen. Greater Prairie Chickens were rather scarce through the winter of 1934-35, a very few having been seen. Eastern Hairy Woodpeckers were quite common. American Magpies were commonly seen through the winter, up until March, often in flocks along Sand Creek. Western Meadowlarks were scarce through the winter, and were not seen com-

monly until the arrival of the spring migrants, about March 27. The first Eastern Robin appeared in the yard on the Turner farm on March 6. On March 10, two Red-tailed Hawks were noted. The first Northern Killdeer arrived March 13, and the first Eastern Common Bluebirds March 14. A male Sparrow Hawk (Eastern ?) was noted March 19. The first Migrant Loggerhead Shrike arrived March 20, and the species became very common by the end of the month. March 24 migrant Northern Yellow-shafted Flickers were seen and the Bronzed Grackle arrived. On March 27, a dark colored hawk of the Red-tailed type, believed to probably have been a Harlan Hawk, was noted flying over.

Under date of April 13, Mr. Charles S. Ludlow of Red Cloud, sends in his migration list for 1935 to date. On January 1, he saw an Eastern Belted Kingfisher perched in a big cottonwood tree near the creek on his place. The next one was not seen until on March 27, and the following day others were seen. Eight Eastern Crows and four Long-tailed Black-capped Chickadees were seen on January 1. On this day Mr. Ludlow saw also twelve Tree Sparrows, which were subsequently noted on January 7 (scores of them), January 18 (numerous), January 25 (numerous), February 5 (plentiful), February 12 (common), April 5 (1), and April 12 (last seen). An American Rough-legged Hawk in the black phase was seen on January 4, and similar individuals were noted on January 18 (1), January 24 (a very black individual with two Eastern Crows chasing it), January 27 (1), and March 17 (1). Three Great Horned Owls (subsp. ?) were seen on January 6, two on February 1, and one on February 19. Also on January 6, eight Red-winged Blackbirds were noted, and the species was seen subsequently on January 10 (9), January 25 (7), January 30 (13), February 1 (48), and April 2 (large flock). In the Ludlow orchard on the evening of January 7, many Eastern Slate-colored Juncos and Shufeldt Oregon Juncos were seen, and these were again noted on January 25. Two Shufeldt Oregon Juncos were seen on February 11, and again on February 12, while the last ones were seen on April 6 (1) and 12 (2). The last Eastern Slate-colored Juncos were seen on April 9 (3). Mrs. Sherwood reported seeing an Eastern Robin on January 18, and Mr. Ludlow noted two of them on January 24. The first migrant Eastern Robin appeared March 5, and the species was common March 13. Four pairs were present around the house, acting as if preparing to start nest-building, on March 23, though by March 25 thirty of them were seen still organized in a flock, and no nests had actually been constructed up to April 12. Mrs. Sherwood reported the Eastern Brown Creeper also on January 18. Horned Larks (subsp. ?) were numerous on January 18 and on the morning of January 25. A Northern Yellow-shafted Flicker was seen on January 27 and others on January 31 (1), February 19 (1), and March 1 (1). Two Northern Pine Siskins were seen on January 28, the same number on February 11, and four on March 5. A male Eastern Cardinal was seen January 31, and the same or another on February 9 and 12. Mr. Edward Tennant saw a flock of thirty-five Greater Prairie Chickens on January 31. He saw them again at different times during February, feeding in the rye field on his place. This flock was not seen after the storm of February 24 until March 15, and other observers reported having seen them following the storm of March 10.

On February 5, Mr. Ludlow saw a mixed flock of Rusty Blackbirds and Bronzed Grackles, totalling eighty-five birds, and on the evening of February 8 a similar mixed flock of 123 was seen. Others were seen on February 12 and 19. Four Eastern American Goldfinches were seen on February 11. Some few Western Meadowlarks had been seen all through the winter, but on February 12 they seemed to have arrived in numbers, and started singing. They were numerous by February 20, and on April 12 were heard singing in all directions. Twelve Common Mallards were seen on Mr. Harold Ludlow's pond on February 18, and

another flock on the following day. The Northern Killdeer was first noted on February 19 (1), and again on February 23 (1), March 3 (1), March 5 (1), March 13 (common), and March 25 (flock of 14). On February 20 a flock of twenty-six (Lesser ?) Canada Geese was seen flying north. Mr. Edward Tennant saw eight of them on March 5 and thirty-one of them on March 15, and flocks were again seen by Mr. Ludlow on March 25. The first Harris Sparrows were seen on February 23 (3).

On March 5, Mr. Edward Tennant saw twenty-three Green-winged Teals. A Vesper Sparrow was seen on March 14. A flock of Brown Cranes (subsp. ?) was seen on March 15, and another flock was noted on March 29 at three o'clock in the afternoon, apparently much worried by the dust storm, and a flock of forty was seen April 3 and another of fifty-two flew off the creek near the house on April 12. The last one of a flock of Piñon Jays that had been wintering in the vicinity was noted by Mr. Ben Pegg at his corn-crib on March 17. On March 22, a pair of Sparrow Hawks put in an appearance, and the following two days three of them were seen looking over their nesting site in the tree near the house. A Swainson Hawk was seen March 23, and another on March 25. A flock of Blue-winged Teals was seen on the creek on March 25, and in the afternoon twelve White Pelicans were seen at the same place. The Eastern Phoebe was first noted on March 28 (1) and again on April 6 (1) and April 12.

A flock of thirty-three Lesser Snow Geese was noted on April 2, and another flock of fourteen was seen browsing on the alfalfa field near the house on April 9. Also on April 2, eight Blue Geese were seen. A Western Mourning Dove was noted on April 2, and they were numerous by April 13. A Red-headed Woodpecker was seen on April 4. Three Western Grasshopper Sparrows were seen on April 5, and several on April 12. The Eastern Chipping Sparrow also was first noted on April 5. A Franklin Gull was seen by Mr. Ben Pegg on April 9. Two Song Sparrows were seen on April 12 and they were common the following day. An Eastern Common Bluebird was seen April 12, and a White-rumped Loggerhead Shrike was noted by Mr. Harold Ludlow on April 10.

Under date of April 1, Mrs. A. H. Jones reports that she has been driving to the Platte River every Sunday recently, and that as compared with other years has seen comparatively few ducks. The Platte is very low, in some places entirely dry, which of course affects the water bird migration. Mrs. Jones reports, however, that there have been many geese, and that for about two weeks in March there were hundreds of Brown Cranes (Little and Sandhill). On February 23, Mr. A. H. Jones saw hundreds of (Giant ?) Red-winged Blackbirds near Bridgeport, Morrill County. On March 8, he saw Greater Prairie Chickens in Furnas County west of Oxford. On a drive to North Platte on Saturday, March 30, Brown Cranes were seen everywhere, some in flight and others in the fields. Mrs. Jones listed twenty-one species on that date. The following day, March 31, in Keith County, between Keystone and Lemoyne, as she was driving she saw between fifty and 100 Mountain Bluebirds feeding in a pasture near the road. They were all together in this area and did not seem to be disturbed when the car was stopped for her to observe them.

HERE AND THERE WITH THE N. O. U. MEMBERS

Under date of February 19, Mrs. O. W. Ritchey of David City reports that on October 13 and 20, 1934, very large flocks of Eastern Robins were noticed along the Platte River near Columbus. Shortly thereafter these flocks departed. On November 14, Mrs. Ritchey saw a flock of Bronzed Grackles in David City, and in this flock was a partial albino individual, probably about one-fourth white.

Under date of February 21, Mrs. George W. Trine of Red Cloud, Nebraska, reports that during the past winter the regular visitors to her feed table included numerous Eastern Hairy Woodpeckers, Northern Downy Woodpeckers and Long-tailed Black-capped Chickadees, as well as a Common Red-shafted Flicker, some Eastern Brown Creepers and a pair of Eastern Cardinals with their young, a male bird. An Eastern Robin was seen there on January 12, and on the date of her writing, February 21, Robins were present and in song.

Under date of February 28, Mr. Earl W. Glandon of Stapleton, Logan County, reported that Mr. Glenn Viehmeyer was feeding a flock of about seventy-five Greater Prairie Chickens on his place near Stapleton. The birds had become so tame that they paid no attention to the members of the family as they went about the place. Often the birds could be approached to within fifty feet without their becoming alarmed. By the date of writing, they had begun to inflate their air-sacs, but had not yet started their morning booming. Later, under date of April 5, Mr. Glandon stated that as soon as the warmer days of March came, these Prairie Chickens scattered and stopped coming to the feeding grounds. It would have been a fine opportunity to have gotten some good moving pictures of these birds, since there was a fence where a good blind could have been built not more than ten feet away from where the birds gathered to feed.

Under date of March 13, Mr. George Back of Gothenburg, writes that there were fewer birds in his garden this past winter than he had noticed during any previous winter. Even the Eastern Hairy Woodpeckers, Northern Downy Woodpeckers and Long-tailed Black-capped Chickadees, which usually come quite commonly to feed on the suet in a wire basket hanging from a tree in his garden, were very few the past winter. However, a male Eastern Cardinal made his home in Mr. Back's garden all winter, which was a great treat. When the dust and snow storm of February 24 came, he fluttered at the kitchen window, as if trying to get in, and it was feared that he would not survive the night. He was not, in fact, seen for several days thereafter, but on March 4 he was back, perched in the top of a walnut tree and singing his spring greetings as merrily as ever.

Under date of March 19, Mrs. H. C. Johnston of Superior, Nebraska, reports that the Northern Pine Siskins are again present in numbers in the Superior vicinity after three years of practical absence. The first ones were noted on March 10. Mrs. Johnston states that in August of 1934 she found them numerous in Chadron State Park.

The Lincoln *Evening Journal* of March 25 carried a United Press story from Antioch, Sheridan County, Nebraska, to the effect that Mr. Charles Herian, a rancher living near that place, reported that during the height of the dust storm of March 20, when visibility in the sandhills was limited to but a few feet, the whirling dust was broken for a short time by a sharp shower. The rain passed after a few moments, after which the dust closed in once more. Mr. Herian heard something thud to the ground near his horse, and this was followed by a series of similar thuds around him. He dismounted and found a number of wild ducks on the ground, dazed from the fall but still alive. Their feathers were coated

with slimy mud, apparently caused by the rain mixing with the heavy dust through which the ducks had been flying, and the mixture matting their wing feathers until the flock was finally downed in an abrupt forced landing. The press dispatch says that veteran sportsmen of the region are shaking their heads over this story, which borders on the fantastic.

Under date of April 6, Mrs. Carl Collister of North Platte, Nebraska, reports forty-two species of birds listed by her in that locality during the month of March, these including eight species of ducks. Large gulls, identified as American Herring Gulls, were repeatedly noted on the river. Four were seen bathing and splashing in the water on March 10; one was seen near the bank of the river on March 11; two were seen at a distance, and one somewhat more closely, the latter individual appearing to be struggling with a fair-sized snake, on March 17; and one was seen out in the river on March 31. The Long-billed Curlew and Greater Yellow-legs was first seen on March 26, and the Wilson Snipe on March 31.

Under date of April 7, Mrs. George W. Trine of Red Cloud reports that the first Northern Purple Martins arrived at her home on April 5. The first male "scout" Purple Martin had been in the martin house for only about fifteen minutes when four other martins arrived, and, quite unusually, one of these four birds was a female. There was then a departure from the ordinary procedure of these birds after their arrival. They were not all there for more than ten minutes until they were dragging each other out of the houses by the heels! The pair took the central room, which Mrs. Trine judged was the same room that they had occupied last year. She adds: "It always seems remarkable that the Purple Martins seem to remember us after having been away for seven months or more. They were very much at home at once, and they do not fly when we pass close to the houses."

Under date of April 11, Mrs. Lily R. Button of Fremont, writes that on April 9 she gave a talk on birds at the Gretna Woman's Club, and that she is also giving bird talks at Midland College in Fremont and in the Fremont Public Schools. She states that the Eastern Robins appeared in town as early as February 2, and that the Bronzed Grackles were likewise earlier than usual in arriving. The Western Mourning Doves appeared as early as March 16.

A HISTORY OF NEBRASKA ORNITHOLOGY

II. PERIOD OF THE EARLIEST EXPLORATIONS

Early Spanish Expeditions

So far as is now definitely known, Francisco Vasquez Coronado and thirty Spanish horsemen were the first white men to visit the Nebraska region. Mexico had been conquered by Spain, and alluring stories had become current there of a land of great wealth to the northward. Eager to extend the Spanish conquests and seize this reported wealth, under orders from the Spanish viceroy Mendoza, Coronado started from Compostela, on the Pacific Coast west of Mexico City, on February 23, 1540, with 320 Spanish soldiers and more than a thousand Indian and negro allies, servants and followers, reaching Culiacan, the northwestern outpost of the Spanish civilization, a month later. Reorganizing his forces, he set out from Culiacan with 200 soldiers on April 22, 1540, the remainder of his forces to follow more slowly.

The expedition crossed the deserts of what is now western Mexico and eastern Arizona, and reached the towns of the Zuni and Hopi Indians in the present Arizona. Thence it continued eastward through New Mexico to the valley of the Rio Grande River, near the present town of Albuquerque. On April 23, 1541, the party left the Rio Grande and marched eastwardly over the Staked Plains of New Mexico and Texas, in search of the rumored fabulously wealthy land of Quivera, far to the northeast. During the following thirty-five days the army ate most of its corn supply, so the main body was sent back to the Rio Grande, while Coronado and thirty horsemen, with two guides, subsisting on bison meat, pressed on northward for forty-two days more, through the present northern Texas and Oklahoma to what apparently was the Arkansas River in Kansas.

Early in July the party at last found Quivera, "at the fortieth degree of latitude", in the squalid Wichita Indian villages of grass tepees. The center of Quivera was probably in the vicinity of the present Manhattan, Kansas. Though disappointed and disillusioned, nevertheless for twenty-five days Coronado and his men traveled through the villages of Quivera, during which period they encountered Indians, probably of the Pawnee nation, in what was called the province of Harahey, which probably was in what is now the Republican River valley in Nebraska. Fearing the coming of cold weather at this great distance from Mexico, early in August Coronado left Quivera, and returned to his main army on the Rio Grande. It was in that same year (1541) that Hernando DeSoto, with a Spanish party, crossed the Mississippi River near the present site of Memphis and wandered northwestward in Arkansas nearly to Kansas. These explorations, with those of Cabeza de Vaca in 1528-1536, caused Spain to claim title to the country thus discovered, and, according to the Spanish maps of the time, the present Nebraska was a part of Florida.

Another Spanish invasion of the Nebraska region occurred 179 years later, in 1720. In that year the Spanish governor Valverde at Santa Fé, acting under orders from Spain, sent an army of forty Spanish soldiers, some settlers, and about seventy Indian allies to search for French intruders and to subdue the Indians along the Platte and Missouri Rivers. This expedition was commanded by the Governor's Lieutenant—General Don Pedro de Villasur. It left Santa Fé on June 16, crossed the mountains, marched north and east, and reached the Platte River during the first few days of August. Having found no signs of the French, Villasur's party continued eastward, and according to the best evidence at hand crossed the Platte on August 7, and later reached the Pawnee villages, located at the junction of the Loup River with the Platte. The Indians attacked the Spanish camp near the Platte (probably not far from the present location of Columbus, Nebraska) early on the morning of August 11, and all but four or five of the Spanish, who managed to get away, were massacred. The story of this Villasur expedition, or "Spanish Caravan", is recorded in a diary of one of the Spanish officers kept up to August 10.

Although the report on his expedition made by Coronado to the king of Spain on his return to Mexico City, in October, 1541, and subsequent accounts of the expedition by other writers (Castaneda, Jeramillo, etc.) have something to say about the soil, streams, fruits, nuts and plants of Quivera, and several references to the characteristic mammals of the Great Plains (prong-horn antelope, white or "lobo" wolves, prairie dogs and jack rabbits), there is no reference to the bird life of the region, either in any of the narratives of the Coronado expedition or in the account of the Villasur expedition. Coronado and his party were the first white men to report the presence of the American bison (*Bison americanus americanus*) on the Great Plains. Two old Spanish stirrups

found in 1874 in a field near Riverton, Franklin County, Nebraska, may have been lost by members of the Coronado expedition.

Early French Explorations

A century and a third after the Coronado expedition and forty-one years before the Villasur expedition French missionary explorers and fur traders began to penetrate to the great interior country. In 1673 Father Marquette and Louis Joliet left the French settlements at Lake Michigan, and, in a birch bark canoe, paddled up the Fox River, made a short portage and floated down the Wisconsin River, discovering the Mississippi River near the present Prairie du Chien, Wisconsin, on June 17. They continued down the Mississippi, and as they passed the mouth of the Pekitonoui (= Missouri) River they learned from the Indians there of the Otoe, Omaha and Pawnee tribes living farther up the Missouri, in territory now included in Nebraska. They descended the Mississippi to the mouth of the Arkansas. In 1682 Robert LaSalle and his party camped near the mouth of the Missourias (= Missouri) River, and learned of the Pawnees living far up this stream. LaSalle named the country Louisiana in honor of King Louis XIV of France. About 1690 the French began to settle in the "Illinois Country", which included the general region now embraced in the states of Ohio, Indiana, Illinois, Michigan and Wisconsin. In 1699 d'Iberville discovered the mouth of the Mississippi River, and the town of Biloxi (Mississippi) was founded. French trappers and fur traders were soon navigating up and down the Mississippi and lower Missouri. By 1704 to 1708, they were ascending the Missouri River for a distance of 800 miles or more, which penetrations by 1714 had been extended to more than 1,000 miles. It was now recognized that the Missouri River was the real source of the great Mississippi. These explorations and the founding of the French settlements near the mouth of the Mississippi beginning in 1699, gave France the basis for her claim of possession to all of the country drained by the Mississippi River. About this time the Province of Louisiana was chartered (1712) and New Orleans was founded (1718). The present Nebraska area thus became a part of Louisiana.

In 1719 the French explorer Dustine visited the Pawnee nation. In 1724 the French commander De Bourgmont made a military expedition to the Nebraska region and held a council with the Otoes and Padoucas. But most important of all was the journey of Pierre and Paul Mallet, brothers, who in 1739 with six French companions left the French settlements near the later city of St. Louis and ascended the Missouri River, past the Otoe villages at the mouth of the Platte River to the village of the Panimahas (= Skidi Pawnees) probably in what is now Dakota County, Nebraska. Setting out from that place on May 29, and traveling southwest across what is now Nebraska, they reached on June 2 a river which they named the "Plate" (= Platte). They followed the Platte River westward until it forked (near the present location of North Platte); then on June 13 they crossed the forks and traveled southward over high treeless plains, reaching the Arkansas River on June 20 and the Spanish city of Santa Fé, in New Mexico, on July 22. These were the first white men to traverse what is now Nebraska, and to view the forks of the Platte River. No references to Nebraska birds occur in the account of the trip of the Mallet brothers.

Rival Claims of European Powers

Thus we find both Spain and France claiming the vast region of which Nebraska is a part, the former by right of original discovery and the latter by reason of the subsequent discovery of the Mississippi River by the French and their settlements at its mouth, as well as the fact

that French fur traders were active in the region and living among the Indians, while the Spanish were not. It was, of course, much easier for the French to ply up and down the Mississippi and Missouri Rivers in boats than for the Spanish to travel overland from their nearest settlements on the Rio Grande to the Missouri River region. Yet in 1720 the Spanish made an attempt to further their claim and to conquer the Missouri Valley Indians, in the form of the ill-fated Villasur Expedition already mentioned.

The English also laid claim to the Missouri-Mississippi Valley region, although their settlements were east of the Allegheny Mountains, on the ground that when the King of England made grants of land to the English settlers along the Atlantic Coast these grants extended westward across the continent. According to this claim Nebraska would have been a part of the colonies of Massachusetts and Connecticut. The struggle between England and France for the mastery of North America, leading to the French and Indian war (1754-1763) resulted in the defeat of France. On December 3, 1762, Louis XV of France secretly ceded the Province of Louisiana to Charles III of Spain, for France having lost the Seven Year's War to England, and the loss of the territory east of the Mississippi River being certain in the peace treaty then being negotiated, the ultimate cession of Louisiana to England was feared. The Nebraska region thus became a part of the Spanish province of Louisiana, and remained so for thirty-eight years, with a Spanish Governor at New Orleans and St. Louis the executive center for the upper portion of the province.

But when the news of the cession of Louisiana reached New Orleans, in October, 1764, the French colonists were very indignant. The new Spanish Governor reached New Orleans on March 5, 1766, but on October 31, 1768, the people of New Orleans rebelled and seized the government. This effort was short-lived, however, for on July 23, 1769, a Spanish fleet with a new governor and 3,000 soldiers took possession of the city, and established the dominion of Spain over Louisiana. St. Louis, which had been founded in 1764 by a small band of French colonists from New Orleans, soon became the headquarters for the fur trade of the Missouri River country. Before the transfer of the sovereignty of Louisiana from France to Spain was known there, many Canadian French settlers crossed the Mississippi from the "Illinois Country" to escape British sovereignty, and located in the new village. Thus began Upper Louisiana, and the opening of the Missouri River Country, which, though belonging to Spain, continued to be developed under French influence.

Late Eighteenth Century Missouri River Explorations

During the first quarter century of Spanish ownership of the province of Louisiana (1762-1787) there was little official development of the Missouri River region. The Spanish development efforts were mostly expended in Lower Louisiana, and moreover the Spanish government did not get along very well with the French population. But the period from 1789 to 1796 was marked by three important Missouri River explorations—those of Jean Munier, Jean Baptiste Truteau and James Mackay.

Jean Munier, a French fur trader from St. Louis, pushed up the Missouri River beyond the Sioux City bend in 1789, and discovered the Ponca tribe of Indians at their historic location near the junction of the Niobrara and Missouri Rivers. He traded for furs and skins, and on his return to St. Louis reported his discovery to the Spanish Lieutenant-governor there. He was rewarded with a monopoly of trading with the Ponca tribe for twenty-five years.

On June 7, 1791, Jean Baptiste Truteau, the first school teacher in St. Louis village, left St. Louis in a boat with eight French oarsmen, and started up the Missouri River with a stock of goods to trade with the Indians above the Ponca tribe on the Missouri. He was stopped not far from the present Sioux City by the Omaha Indians, brought before their famous chief, Blackbird, robbed and held a virtual prisoner through the winter of 1791-92. On his eventual return to St. Louis he made a report in writing to the merchants there who had financed his expedition.

In 1795 one Lecuyer and James Mackay, fur traders, visited the Nebraska region in April and September, respectively, and the following year Mackay built Fort Charles on the Missouri River below the present town of Dakota City. This James Mackay, or "Jacques Machey" as the French called him, was a Scotchman employed by the Spanish commander to make an exploration of the Upper Missouri, which he did in these years 1795 and 1796. He was the first white man to explore the great sandhills of Nebraska. He started from the Omaha village, near the present town of Homer in Dakota County, and traveled southwest, crossing the Elkhorn River (near the present town of Norfolk, Madison County), thence west across the Clearwater (in the present Antelope County) and the Calamus, and finally reached the region of North Loup River and the great sandhill lakes of Cherry County. From there he went northward, crossing Gordon Creek, Snake Creek and the Niobrara River, thence down the Niobrara to the Ponca village at its mouth, thence across the Verdigris and the Bow Creeks, through the present Knox, Cedar and Dixon Counties, back to the Omaha village near Homer. He made an accurate map of this region, which was published in Paris in 1805 by F. M. Perin du Lac (*Voyage dans les deux Louisianes*), who ascended the Missouri to the White River in South Dakota and returned between May 18 and September 20, 1802. However, no bird notes of importance are included in any of the written accounts of these eighteenth century explorers of the Missouri River region and what is now Nebraska.

The Louisiana Purchase

Napoleon Bonaparte had come into power in Europe, and was in a position to demand of Spain the return to France of the province of Louisiana. This he did, and his demand was complied with. Napoleon intended to make Louisiana a great French colony. But before Marshal Victor, the new French Governor of Louisiana, could arrive at New Orleans, war was resumed between France and England. Napoleon, aware that the powerful British navy could seize New Orleans and thus gain control of the whole of Louisiana, decided to sell the entire province to the United States, which he did on April 30, 1803, for a consideration of \$15,500,000. On November 30, 1803, in the public square at New Orleans, the Spanish flag was hauled down and the French flag went up. On December 20, 1803, at St. Louis, the French flag came down and the flag of the United States went up. The province of Louisiana was received for the United States by Governor Claiborne of Mississippi and General Wilkinson of the United States Army. Captains Amos Stoddard and Meriwether Lewis received possession of Upper Louisiana on behalf of the United States on March 9, 1804, at St. Louis.

Immediately following the Louisiana purchase there began a series of explorational expeditions, extending over a period of fifty years, from the reports of which we must obtain such knowledge as we can of the original distribution and abundance of the birds of the region now included in the state of Nebraska. The first of these explorations are those of Lewis and Clark and Zebulon M. Pike, and these will be the subject of the next installment of this history of Nebraska ornithology.

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MISSISSIPPI VALLEY WILD LIFE CONSERVATION
CONFERENCE

NEBRASKA ORNITHOLOGISTS' UNION AND IOWA ORNITHOLOGISTS' UNION JOINT ANNUAL MEETING

SIoux CITY, IOWA, MAY 10 AND 11, 1935
Hotel Martin Ball Room

MORNING SESSION—8:30 - 12:00

8:30 Registration.

9:15 Address of Welcome.

9:30 The Proposed Lewis and Clark National Park. Mayor W. D. Hayes, Sioux City, Iowa.

Mr. E. Dudley Beck, Secretary, Lewis and

PROGRAM

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- Clark National Park Association.
(20 minutes)
- 9:55 Problems and Progress of Bob-white Quail Conservation in Iowa.
Dr. Paul L. Errington, Assistant Professor in Charge of Wild Life Research, Iowa State College, Ames, Iowa. (30 minutes)
- 10:30 Some New Aspects of Wild Life Conservation.
Mr. I. T. Bode, Executive Director, Iowa Fish and Game Commission, Des Moines, Iowa. (30 minutes)
- 11:05 The Iowa Twenty-five Year Conservation Plan.
Mr. John R. Fitzsimmons, Consulting Landscape Architect, Iowa Board of Conservation, Ames, Iowa. (25 minutes)
- 11:35 Conservation Program of the Iowa State Planning Board.
Mr. Philip A. DuMont, Game Technician, Iowa Fish and Game Commission, Des Moines, Iowa. (25 minutes)

AFTERNOON SESSION—1:30 - 5:00

- 1:30 Organized Conservation Work in Minnesota.
Mr. Gustav Swanson, Supervisor of Game Management, Soil Erosion Service, U. S. D. A., Spring Valley, Minnesota. (15 minutes)
- 1:50 The Game Survey of Missouri.
Dr. Rudolph M. Bennitt, Wild Life Technician, U. S. National Park Service, University of Missouri, Columbia, Missouri. (25 minutes)
- 2:20 Nebraska's Ten-year Plan of Game Conservation and Management.
Mr. Frank B. O'Connell, Secretary, Game, Forestation and Parks Commission, Lincoln, Nebraska. (30 minutes)
- 2:55 Some Relations of the Plains Shelterbelt to Wild Life.
Mr. John H. Hatton, Shelterbelt Inspector, Forest Service, U. S. D. A., Lincoln, Nebraska. (25 minutes)
- 3:25 Soil Erosion Control Work in Relation to Wild Life.
Mr. E. G. Holt, Chief Forester of the Soil Erosion Service, U. S. D. A., LaCrosse, Wisconsin. (25 minutes)
- 3:55 How Can We Save Our Migratory Waterfowl?
Mr. John H. Baker, Executive Director, National Association of Audubon Societies, New York City. (20 minutes)
- 4:20 Relation of Drouth and Water Conservation to Wild Life.
Dean G. E. Condra, Director, Conservation and Survey Division, University of Nebraska, Lincoln, Nebraska. (35 minutes)
- 6:30 Wild Life Conservation Banquet. Martin Hotel Ball Room.
Address by a conservationist of national prominence.

MORNING SESSION—9:30 - 12:00

- 9:30 Bird Banding as a Method in Wild Life Study.
Mrs. Marie C. Dales, Councillor, Inland Bird Banding Association, Sioux City, Iowa. (20 minutes)

- 9:55 Photography as a Method in Wild Life Study.
Mr. W. M. Rosene, Treasurer, Wilson Ornithological Club, Ogden, Iowa. (20 minutes)
- 10:20 The Role of Territory in the Life-History of the Bob-white Quail.
Dr. Paul L. Errington, Assistant Professor in Charge of Wild Life Research, Iowa State College, Ames, Iowa. (15 minutes)
- 10:40 Waterfowl Management in the Prairie Region.
Mr. Logan J. Bennett, Game Technician, Iowa Fish and Game Commission, Des Moines, Iowa. (25 minutes)
- 11:10 Stream Pollution—A Fisheries Problem.
Dr. M. M. Ellis, In Charge of Fisheries Investigations, U. S. Bureau of Fisheries, University of Missouri, Columbia, Missouri. (20 minutes)
- 11:35 The Gifford Estate Lands South of Omaha and Council Bluffs as Wild Life Sanctuary Areas.
Mr. L. O. Horsky, Omaha, Nebraska. (20 minutes)

AFTERNOON SESSION—1:30 - 5:00

- 1:30 Recording Bird Songs.
Mrs. Lily R. Button, Fremont, Nebraska. (15 minutes)
- 1:50 The Policies and Activities of the National Association of Audubon Societies.
Mr. John H. Baker, Executive Director, National Association of Audubon Societies, New York City. (15 minutes)
- 2:10 Gardening with the Birds. (Illustrated with slides).
Mrs. Addison E. Sheldon, Lincoln, Nebraska. (20 minutes)
- 2:35 The Seasonal Distribution of the Horned Larks of the Missouri Valley Region.
Prof. M. H. Swenk, University of Nebraska, Lincoln, Nebraska. (30 minutes)
- 3:10 Observations on Common South Dakota Birds. (Illustrated with slides).
Dr. A. V. Arlton, Dakota Wesleyan University, Mitchell, South Dakota. (25 minutes)
- 3:40 Wild Flowers of the Missouri River Region. (Illustrated with colored slides.)
Mr. Victor Overman, Omaha, Nebraska. (45 minutes)
- 4:30 Business Meetings of I. O. U. and N. O. U.
- 6:30 Joint I. O. U. - N. O. U. Banquet.
Address by Dr. Thomas S. Roberts, University of Minnesota, Minneapolis, Minnesota.

NEBRASKA ORNITHOLOGISTS' UNION AND IOWA
ORNITHOLOGISTS' UNION FIELD DAY

Vicinity of Sioux City, Iowa, May 12, 1935

Field trips for purposes of bird study will be organized under competent leaders on this day to visit the proposed Lewis and Clark National Park in Nebraska and probably also other suitable near-by places in Iowa and South Dakota. Detailed plans of the Field Day will be announced at the meeting.